

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE OF PAGES 1 16		
2. AMENDMENT/MODIFICATION NO. 34		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN Kennedy Space Center, FL 32899			7. ADMINISTERED BY (If other than Item 6) CODE				
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code) OAO Corporation 7375 Executive Place Seabrook, MD 20706-2278			(x)				9A. AMENDMENT OF SOLICITATION NO.
							9B. DATED (SEE ITEM 11)
							10A. MODIFICATION OF CONTRACT/ORDER NO. NAS5-98144/NNK05OA12D
							10B. DATED (SEE ITEM 13) December 1, 2004
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<p><input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:</p> <p>(a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.</p>							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Stennis Space Center --- ODIN SERVICES

Technology Infrastructures: Incorporation of 16 Infrastructure Upgrades Previously Approved Utilizing Fast Track Process

Change in Delivery Order Price: \$83,232.83(INCREASE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Sheryl K. Weimann Contracts Manager		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Penelope A. Hale Contracting Officer	
15B. CONTRACTOR/OFFEROR <i>Sheryl K. Weimann</i> (Signature of person authorized to sign)	15C. DATE SIGNED 9/14/05	16B. UNITED STATES OF AMERICA BY <i>Penelope A. Hale</i> (Signature of Contracting Officer)	16C. DATE SIGNED 9/15/2005

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below are hereby incorporated into this Delivery Order at a fixed price of \$83,232.83.

FT Approval Date	SWR/Description	Amount
5/27/05	85FE GA54 EN Install (1) 25-pair copper cable from B1201 to gas meter located on Saturn Drive (FT3)	\$ 8,879.37
6/30/2005	85FE GV5R A0 Remove (5) spans of 25-pair aerial cable from existing power poles near B5100 so MSS can remove two power poles	\$ 1,278.64
7/28/2005	DB00 0513 00 Extend T1 circuits from router in room 106 in B1201 to room 339A in B1100 and room 308 in B3203 to support NDBC networks	\$ 1,046.99
7/12/2005	DB00 0566 00 Install cable to trailer 137 from B3203 to support telephone and networks for NDBC	\$ 1,561.65
7/15/2005	GS01 5013 00 Install (3) T1AX circuit cards in UMC chassis in B1201 and (3) T1AX circuits cards in B2040 to support extension of T1 circuits to B2040 for DHS/ICE	\$ 4,333.64
7/15/2005	HE00 DF04 00 Install 6-pair wire to Testing Pier Gage on Pearl River for USGS	\$ 3,542.82
6/30/2005	NJ00 L5AN 00 Install (6) duplex fiber cable from room 107 to room 108 in B1003 to support NAVEOCEANO networks	\$ 3,258.10
8/10/2005	NJ00 L5AP 00 Relocate and install Cat5e wiring and fiber in B1002, B1003 and B8100	\$ 28,438.13
6/30/2005	NJ00 L5AQ 00 Install Cat5e wiring in B1002 and B8100 to support NMCI networks for NAVOCEANO	\$ 1,636.93
8/18/2005	P203 5NC1 00 Install fiber, Cat3 and Cat6 to support the video trailer outside B1100 South for NASA	\$ 5,000.30
7/28/2005	PX00 054L 03 Install (2) Cat53 jacks in room 232C of B1100 to support EPA/GMPO networks	\$ 441.48
6/30/2005	UV00 FB00 00 Install fiber from room 117 in B1103 to room 116 in B1201 to support USM networks in B1020 and place fiber cross connects at B1201 to existing fiber running to B1020	\$ 5,180.51

FT Approval Date	SWR/Description	Amount
8/10/2005	WM00 5GAA 00 Install wireless and hardwire network in B2425 for NRLDET	\$ 2,870.25
5/27/05	WS00 PAA5 00 Install Cat5e wiring in rooms B17, B23 & B24 of B1005 to support NRLDET networks	\$ 3,533.63
8/18/05	XJCR W190 00 Extend (2) 689 telephone numbers from B1201 to B4080 construction trailer for Trans-Gulf Constructors	\$ 4,396.57
6/20/05	XK59 5TMP 09 Install Cat6 wiring in B1000 and B2201 to support EMCS. Install Cat3 wiring in new area of B2201 that was changed from a shop area to an office and computer floor area for EMCS.	\$ 7,833.82
	TOTAL	\$83,232.83

2. SWR 85FE GA54 EN

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (1) 25-pair copper cable from B1201 to gas meter located on Saturn Drive for MSS as outlined in OAO proposal dated May 25, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL:

- (1) Trench from manhole to gas meter.
- (2) Install 2" schedule 80 PVC conduit from manhole to gas meter and cover trench back up.
- (3) Install (1) 25-pair 22 gauge copper cable from room 106 in B1201 out thru existing duct bank to gas meter.
- (4) Install (1) distribution pedestal inside of wire fence.
- (5) Install (1) 25-pair protector block in pedestal and splice to 25-pair copper cable.
- (6) Install ½" flex conduit from distribution pedestal up to new communications enclosure provided by Siemens.
- (7) Install 5-pair buried service wire from distribution pedestal up thru flex conduit to existing junction box.
- (8) Install protector modules in existing protector in room 116 of B1201.
- (9) Test and label cable at both ends.
- (10) Provide ODIN with redline drawing showing route taken with cable.

ODIN:

- (1) Install (1) ISU128 CSU/DSU inside a new weatherproof box placed by Siemens next to gas meter on Saturn drive.
- (2) Install (1) ISU128 CSU/DSU in existing equipment cabinet in room 129 of B2201.
- (3) Install (1) UBRITE card in existing BR1/10 channel bank in B1201.
- (4) Install (1) UBRITE card in existing BR1/10 channel bank in B2201.

- (5) Telephone technician will place cross connects in B1201 and B2201 to activate circuit.
- (6) Test the CSU/DSU's between buildings overnight to make sure there are working correctly without errors prior to turning up to EMCS.

b. The contractor shall provide the following material:

ODIN:

- (1) 2 each Adtran ISDN mini U-BRITE (1150077L1)
- (2) 1 each Adtran ISU128 stand alone (1202029L2)
- (3) 1 each Adtran ISU128 rack mount (1200087L1)

BOE-TEL:

- (1) 1,200 feet of General 25-pair 22 gauge copper cable (E-002522-DFC)
- (2) 38 each 2" schedule 80 PVC conduit (10 feet sections)
- (3) 25 each Avaya protector modules 4B1EW (104878)
- (4) 15 feet of 1/2" flex conduit
- (5) 2 each 3M 710-25 pair splice modules (237384)
- (6) 2 each 2" schedule 80 PVC sweeping 90's
- (7) 1 pack of Premier black tie wraps (739308)
- (8) 1 each Marconi distribution pedestal UPCBD3 (023484)
- (9) 1 each Marconi mounting stakes (052215)
- (10) 1 each Marconi 25-pair terminal block with 4' stub (126118)
- (11) 1 each 2" schedule PVC coupling

- c. Schedule: The completion of this effort shall be 8 weeks after receipt of Fast Track approval (May 27, 2005).

3. SWR 85FE GV5R A0

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to remove (5) spans of 25-pair aerial cable from existing power poles near B5100 so MSS can remove two power poles as outlined in OAO proposal dated June 6, 2005.

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Remove 5-spans of 25-pair aerial cable from existing power poles in front of B5100 so that MSS can remove a couple of poles.
 - (2) Roll up cable on cable reel and place in NASA cable yard.
- b. No materials are required for this effort.
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (June 30, 2005).

4. SWR DB00 0513 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to extend T1 circuits from

router in room 106 in B1201 to room 339A in B1100 and room 308 in B3203 to support NDBC networks as outlined in OAO proposal dated July 8, 2005. Installation shall include testing in B1201 only, and configuration documentation (circuit drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install one fiber circuit from building 1201 room 106 to building 1100 room 339A.
 - (2) Install one fiber circuit from building 1201 room 106 to building 3203 room 308.
 - (3) Install two jacks for T1 circuits in building 1201 room 116 from the Bell South demark to be used to connect to NDBC's router.
 - (4) Install fiber jumpers to activate circuits to B1100 and B3203 using the fiber circuit that use to feed the U.S. Coast guard computer that was in B1100 and fed from B3203.
 - (5) Escort NDBC network technician during the installation and testing of NDBC router in building 1201 room 106.
 - (6) Provide drawing of circuits to customer.
 - (7) Update databases
- b. The contractor shall provide the following material:
 - (1) 2 each 1 meter ST/SC single mode fiber jumpers
 - (2) 2 each 1 meter ST/ST single mode fiber jumpers
- c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (July 28, 2005).

5. SWR DB00 0566 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install cable to trailer 137 from B3203 to support telephone and networks for NDBC as outlined in OAO proposal dated July 8, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Extend existing 25-pair copper cable that was coiled up behind B3203 out thru existing conduit under trailer 137 that was recently moved from the FAA yard .
 - (2) Make a 25-pair building splice inside trailer to existing 25-pair protector that was left mounted on wall when trailer was moved.
 - (3) Ground protector to an approved ground at trailer.
 - (4) Install (1) Cat5e wire from room 106F out thru existing metal conduit to trailer 137 and terminate one end on existing patch panel in room 106F of B3203 and the other end to a Cat5e jack and place into an existing Panduit outlet box in trailer 137.
 - (5) Test and label 25-pair copper cable at trailer 137.
 - (6) Test and label Cat5e wire at both ends.
- b. The contractor shall provide the following material:
 - (1) 200 feet of Belden Data Twist Plenum wire (CMP-00424BEL-5U-06)
 - (2) 1 each Systimax 12-port jack panel (200665)
- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (July 12, 2005).

6. SWR GS01 5013 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (3) T1AX circuit cards in UMC chassis in B1201 and (3) T1AX circuit cards in B2040 to support extension of T1 circuits to B2040 for DHS/ICE as outlined in OAO proposal dated July 8, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (3) T1AX circuit cards in UMC1000 in room 106 of B1201.
 - (2) Install (3) T1AX circuit cards in UMC1000 in room 120 of B2040.
 - (3) Extend circuits from B1201 and B2040.
- b. The contractor shall provide the following material:
 - (1) 6 each T1AX circuit cards (0110-0193)
- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (July 15, 2005).

7. SWR HE00 DF04 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install 6-pair wire to Testing Pier Gage on Pearl River for USGS as outlined in OAO proposal dated June 29, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install pull string in existing duct bank thru 3-hand holes from T2415 down to the Testing Pier Gage located on the Pearl River.
 - (2) Install (1) 6-pair aerial drop from splice on power pole coming into Cypress House area next to B2415.
 - (3) Install (1) 6-pair protector on pole next to B2415 and terminate 6-pair aerial cable.
 - (4) Install (1) 6-pair buried cable thru existing 2-inch PVC conduit that goes from pole into B2415 then out thru a 4" PVC conduit out thru 3 hand holes down to the 1st shack on the river and terminate one end on 6-pair protector installed in item (2) above.
 - (5) Install (1) 6-pair protector inside of 1st shack and ground to an acceptable ground and terminate 6-pair buried wire that was installed in item (3) above in it.
 - (6) Install (1) 6-pair buried cable thru existing conduit from 1st shack on the river to the 2nd shack on the river.
 - (7) Install (1) 6-pair protector in the 2nd shack on the river and ground to an acceptable ground.
 - (8) Terminate one end of 6-pair cable on the 6-pair protector installed in item (4) above and the other end on the 6-pair protector that was installed in item (6) above.
 - (9) Install (1) surface mount telephone jack in the 2nd shack on the river.
 - (10) Test 6-pair cable from B2436 to 2nd shack on the river and label 6-pair protectors in both shacks.

- b. The contractor shall provide the following material:
 - (1) 700 feet of 6-pair buried copper cable (E-000624DFC)
 - (2) 600 feet of 6-pair multi-drop (F-06P22DAF)
 - (3) 30 feet pf #6 ground wire
 - (4) 20 feet of 4-pair level 3 PVC wire (CM00424BBG-3U)
 - (5) 8 each 109 wire vise (003302)
 - (6) 7 each J-hooks (003888)
 - (7) 3 each 6-pair station protectors (177930)
 - (8) 1 each surface mount jack (503788A)
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (July 15,2005).

8. SWR NJ00 L5AN 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (6) duplex fiber cable from room 107 to room 108 in B1003 to support NAVEOCEANO networks as outlined in OAO proposal dated May 17, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (2) duplex fiber cable to (3) locations in room 107 to room 108 in B1003.
 - (2) Install (1) Caddy clip at (3) locations to mount fiber insert in room 107.
 - (3) Terminate fiber into ST connectors at room 107 and room 108.
 - (4) Connect (2) duplex fiber cables to (1) 4-port fiber insert at (3) locations in room 107.
 - (5) Connect (6) duplex fiber cables to existing couplers in fiber cabinet in room 108.
 - (6) Test and label fiber cables.
 - (7) Provide OAO with redline drawing showing jack numbers and locations.
 - (8) Relocate (1) Cat5 jack location in room 107 due to modular furniture.
- b. The contractor shall provide the following material:
 - (1) 1,000 feet of Corning plenum MIC duplex fiber (370-949-FDDI-02)
 - (2) 24 each cool cure consumables (142172)
 - (3) 24 each P2020C-C-125 multimode ST connectors (170290)
 - (4) 7 each 4-meter duplex ST/SC multimode fiber jumpers (199438)
 - (5) 5 each 3-meter duplex ST/ST multimode fiber jumpers (129351)
 - (6) 3 each Ortronics singlegang faceplates (148025)
 - (7) 3 each Ortronics 4-port fiber inset (173628)
 - (8) 3 each 7-meter duplex ST/ST multimode fiber jumpers (266843)
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (June 30, 2005).

9. SWR NJ00 L5AP 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to relocate and intall Cat5e wiring and fiber in

B1002, B1003 and B8100 as outlined in OAO proposal dated July 1, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

B1002 – Room 128 area

- (1) Pull back (8) classified Cat5e wires and (1) classified 12-strand multimode fiber cable from room 128 to room 135 and pull thru new piece of metal conduit placed by other contractor.
- (2) Rerterminate the (8) Cat5e wires on the 110 jack panels in room 128.
- (3) Terminate the 12-strands in new ST connectors and put back into LIU panel in room 128.
- (4) Test and label Cat5e wires and fiber.

B1003 – Room 160 area

- (1) Install (2) classified Cat5e red wires from room 160 to (45) locations on the north end of B1003.
- (2) Install 110 jack panels in room 160 and terminate (45) wires.
- (3) Install Panduit as needed in these areas.
- (4) Install Panduit outlet boxes as needed in these areas.
- (5) Test and label both ends of Cat5e wires.
- (6) Remove all old classified Cat5e wiring that is presently running thru Panduit in the hallways once NAVOCEANO has cutover to the new wiring and leave the Panduit for future use.
- (7) Provide ODIN with a redline drawing showing jack numbers and locations.

B1003 – Room 108 area

- (1) Install (2) classified Cat5e wires from room 108 to (29) locations in the south end in rooms 83 to 86 area thru new metal conduit placed by other contractor.
- (2) Remove all old classified Cat5e wiring that is presently running thru Panduit in the hallways once NAVOCEANO has cutover to the new wiring and leave the Panduit for future use.
- (3) Test and label both ends of Cat5e wires.
- (4) Provide ODIN with a redline drawing showing jack numbers and locations.

B8100 – Room 101 area

- (1) Relocate fiber cables from existing blue cabinet to existing stand alone equipment racks. Customer will have to get outage for anything that works on the fibers.

b. The contractor shall provide the following material:

- (1) 36,000 feet of Belden Data Twist Five PVC red wire (CM-00424BEL-5U-03)
- (2) 148 each Ortronics blanks (148027)
- (3) 100 each Panduit LD5 raceway (131156)
- (4) 80 each Panduit LD10 raceway (131155)
- (5) 74 each Ortronics faceplate (148025)
- (6) 74 each Ortronics dual T568A/B Cat5e jacks (248945)
- (7) 74 each Panduit outlet boxes (20133^)
- (8) 24 each cool cure consumables (142172)
- (9) 24 each P2020C-C-125 multimode ST connectors (170290)
- (10) 24 each C2000A-2 multimode ST couplers (088987)
- (11) 10 each of Panduit TG70 base & cover (230476) 8FT
- (12) 8 packs of Panduit reducer fittings (142142)
- (13) 5 packs of Panduit TG70 wire retainers (250004)

- (14) 5 each Systimax 36-port 110 jack panel blocks (200666)
- (15) 3 each Panduit TG70 end caps (230485)
- (16) 2 packs of Panduit inside corners LD10 (131130)
- (17) 2 packs of Panduit outside corners LD10 (131128)
- (18) 2 packs of Panduit right angles LD10 (131126)
- (19) 1 pack of Panduit end cap LD10 (131132)

- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (August 10, 2005).

10. SWR NJ00 5AQ 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat5e wiring in B1002 and B8100 to support NMCI networks for NAVOCEANO as outlined in OAO proposal dated June 10, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

B1002

- (1) Install (1) Cat5e wire from room 183 to room 178 and terminate one end on new Cat5e jack and the other end on existing 110 jack panel in room 178.
- (2) Install (1) Cat5e wire from room 183F to room 178 and terminate one end on new Cat5e jack and the other end on existing 110 jack panel in room 178.
- (3) Install (1) Cat5e wire from room 291F to room 295G and terminate one end on new Cat5e jack and the other end on existing patch panel in room 295G.
- (4) Install Caddy J-hooks above ceiling to hold wiring.
- (5) Install Caddy clips to hold faceplate in wall.
- (6) Test and label Cat5e wire at both ends.

B8100

- (1) Install (1) Cat5e wire from room 113 to room 101B and terminate one end on new Cat5e jack and the other end on existing patch panel in room 101B.
- (2) Install Caddy J-hooks above ceiling to hold wiring.
- (3) Install Caddy clips to hold faceplate in wall.

- b. The contractor shall provide the following material:

- (1) 1,000 feet of Belden Data Twist Fiber plenum Cat5e wire (CMP-00424BEL-5U-06)
- (2) 12 each Caddy J-hooks (184873)
- (3) 8 each Ortronics blanks (148027)
- (4) 4 each Ortronics faceplate (148025)
- (5) 4 each Ortronics single T568A/B Cat5e jack (248941)
- (6) 4 each Caddy clips (157703)

- c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (June 30, 2005).

11. SWR P203 5NC1 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install fiber, Cat3 and Cat6 to support the video trailer outside B1100 South for NASA as outlined in OAO proposal dated July 11, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (6) GFE RG6 coax cables from room 11153B out thru new conduit placed by other contractor to a new stainless steel box on the outside of B1100 South. Audio/visual technicians will terminate.
 - (2) Install (6) GFE audio lines from room 11153B out thru new conduit to box and audio/visual technicians will terminate both ends.
 - (3) Install (1) deep Panduit outlet box in stainless steel box.
 - (4) Install (6) Cat6 wires from room 11153A out thru new conduit to box and terminate one end on Cat6 jacks and place in deep Panduit box and terminate the other end on existing Visipatch panel in room 11153A.
 - (5) Install (6) Cat3 wires from room 11153A out thru new conduit to box and terminate on (6) dual Cat3 jacks.
 - (6) Install (1) 600B fiber shelf in room 11153B.
 - (7) Install (1) 12-strand singlemode fiber cable from room 11153B out thru new conduit to box and terminate in ST connectors on both ends and place one end in (2) 100A LIU's in box and the other end in the 600B shelf in room 11153B.
 - (8) Install (1) 12-strand singlemode fiber cable from room 11153B to room 11153A and terminate both ends in ST connectors and place one end in 600B shelf in room 11153B and the other end in existing LGX panel in room 11153A.
 - (9) Test and label fiber, Cat6 and Cat3.
 - (10) Provide ODIN with a redline drawing showing jack locations and jack numbers.
- b. The contractor shall provide the following material:
 - (1) 500 feet of Systimax Cat3 white plenum wire (CMP-00424MAX-3U)
 - (2) 500 feet of Systimax 2071 level green plenum wire (CMP-00424AVA-7U-04)
 - (3) 100 feet of Corning MIC 12-strand singlemode fiber cable (370-948-SMODE-12)
 - (4) 48 each cool cure consumables (142172)
 - (5) 48 each P3020A-C-125 singlemode ST connectors (157475)
 - (6) 48 each C3000A-2 singlemode ST couplers (105263)
 - (7) 6 each Ortronics USOC Cat3 jacks (148035)
 - (8) 6 each Systimax MGS400 T568A/B Cat6 jacks (246746) Green
 - (9) 2 each Avaya 100A LIU's (146050)
 - (10) 2 each Avaya 10A panels (088980)
 - (11) 1 pack Premier black cable ties (739308)
 - (12) 1 each Systimax M14L-262 faceplate (197613) white
 - (13) 1 each Panduit deep outlet box (201336)
 - (14) 1 each Ortronics faceplate (148025)
 - (15) 1 each Panduit dual gang outlet box (203852)
 - (16) 1 each Ortronics dual gang faceplate (148026)
 - (17) 1 each Avaya 600B fiber shelf (178260)
 - (18) 1 each Avaya 600B cover plate (179391)
 - (19) 1 each Avaya 600B trough (192718)
 - (20) 1 each Avaya 600B 24-port panel (179380)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (August 18, 2005).

12. SWR PX00 054L 03

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (2) Cat53 jacks in room 232C of B1100 to support EPA/GMPO networks as outlined in OAO proposal dated July 14, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Setup area for working in Asbestos.
 - (2) Install (2) Cat5e wires from room 232C to room 230 and terminate one end on existing Cat5e patch panel in room 230 and the other end on (2) Cat5e jacks in room 232C.
 - (3) Install (1) Caddy clip to hold faceplate and jacks in wall.
 - (4) Install (1) singlegang faceplate equipped with (2) Cat5e jacks and (2) blanks in room 232C.
 - (5) Test and label Cat5e wiring at both ends.
 - (6) Provide ODIN with a redline drawing showing jack number and location.
- b. The contractor shall provide the following material:
 - (1) 150 feet Belden Data Twist Five plenum blue wire (CMP-00424BEL-5U-06)
 - (2) 2 each Ortronics blanks (148027)
 - (3) 1 each Ortronics singlegang faceplate (148025)
 - (4) 1 each Ortronics dual T568A/B Cat5e jack (248945)
 - (5) 1 each Caddy clip (157703)
- c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (July 28, 2005).

13. SWR UV00 FB00 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install fiber from room 117 in B1103 to room 116 in B1201 to support USM networks in B1020 and place fiber cross connects at B1201 to existing fiber running to B1020as outlined in OAO proposal dated June 16, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - BOE-TEL:**
 - (1) Install (1) 12-strand singlemode fiber cable from room 117 in B1103 thru existing duct bank to room 116 in B1201.
 - (2) Terminate fiber into SC connectors in room 117 of B1103 and place in existing SC fiber patch panel in existing black cabinet.
 - (3) Terminate fiber into SC connectors in room 116 of B1201 and place in existing ST fiber LGX panel.

- (4) Test and label fiber at both buildings and provide OTDR test results on CD.
- (5) Provide OAO with redline drawing showing what duct was used between B1103 and B1201.

OAO:

- (6) Place fiber cross connects at B1201 to connect to existing fiber cable that feeds B1020 to activate circuits between B1103 and B1020.
- b. The contractor shall provide the following material:
- (1) 3,800 feet of Systimax 12-strand singlemode fiber cable (372-COR8.3-LTD-12)
 - (2) 12 each Systimax SC singlemode connectors (266837)
 - (3) 12 each P3020A-C-125 singlemode connectors (157475)
 - (4) 12 each C3000A-2 singlemode ST couplers (105263)
 - (5) 2 packs of Premier black cable ties (739308)
 - (6) 2 each 2-meter singlemode ST/ST fiber jumpers (151987)
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (June 30, 2005).

14. SWR WM00 5GAA 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install wireless and hardwire network in B2425 for NRLDET as outlined in OAO proposal dated July 29, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
- (1) Install (1) GFE Cisco 1200 wireless Access Point in room 103 in B2425 and configure.
 - (2) Install (1) GFE Cisco Cat2950G-24 in B2425 and configure.
 - (3) Install Cat5 station cords to the appropriate amount of existing jacks in each room that has been designated by Monty Peffley and test them to make sure they work prior to the meeting.
 - (4) Update Network Health
 - (5) Update Cisco Works
 - (6) Update drawings
 - (7) Update databases
 - (8) Install fiber jumpers and GFE Milan converters to activate new link to support the GFE Cisco Cat2950G-24.
- b. The contractor shall provide the following material:
- (1) 2 each 2-meter singlemode ST/SC fiber jumpers (152037)
 - (2) 3 each 2-meter singlemode ST/ST fiber jumpers (151987)
 - (3) 1 each Milan converter 100Mbps SMF SC/UTP MIL-C2413-15 (226862)
 - (4) 1 each Milan converter 100Mbps SMF SC/UTP MIL-C2113-15US (226119)
- c. NASA will provide the following material:
- (1) 1 each Cisco Cat2950G-24 network switch
 - (2) 1 each Cisco Access Point 1200
 - (3) 2 each extension cables for the antenna of the Access Point 1200

- d. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (August 10, 2005).

15. SWR WS00 PAA5 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat5e wiring in rooms B17, B23 and B24 of B1005 to support NRLDET networks as outlined in OAO proposal dated May 10, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
- (1) Install J-hooks on both sides of hallway in B-wing.
 - (2) Install (1) 2" x 8" x 10' Flextray across B-wing hallway in three locations so that wiring will be able to go from south side of hallway to north side of hallway and run to room B3.
 - (3) Install (2) Cat5e wires on the east wall in room B17 and terminate on blue Cat5e jacks and place in (1) singlegang faceplate.
 - (4) Install (4) Cat5e wires on the west wall and (2) Cat5e wires on the east wall of room B24 and terminate on blue Cat5e jacks and place in (1) singlegang faceplate.
 - (5) Install (2) Cat5e wires on the east wall of room B23 and terminate on blue Cat5e jacks and place in (1) singlegang faceplate.
 - (6) Install (1) each 110 wiring block in room B3.
 - (7) Install (1) each 110 jumper trough in room B3.
 - (8) Terminate all Cat5e wires on new 110 wiring block in B3.
 - (9) Test and label Cat5e wiring at both ends.
 - (10) Provide ODIN a redline drawing showing jack locations and jack numbers.
- b. The contractor shall provide the following material:
- (1) 2,000 feet of Systimax 1061 Cat5e PVC blue wire (CM-00424MAX-6U-06)
 - (2) 110 each Caddy 2" J-hooks (178314)
 - (3) 10 each Avaya MPS100E-318 Cat5e jack blue (221202)
 - (4) 10 each Avaya 110C-4 connectors (073039)
 - (5) 4 each Caddy clips (157703)
 - (6) 4 each Systimax M14L-262 faceplate white (197613)
 - (7) 4 each Flextray threaded rod (FT1909)
 - (8) 3 pair Flextray 8 inch center hanger (196501)
 - (9) 3 each Flextray 2" x 8" x 10' (174337)
 - (10) 1 each Systimax 110AW2-100 wiring block (154069)
 - (11) 1 each Systimax 110 jumper trough (184160)
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (May 27, 2005).

16. SWR XJCR W190 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to extend (2) 689 telephone numbers from

B1201 to B4080 construction trailer for Trans-Gulf Constructors as outlined in OAO proposal dated July 29, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

ODIN:

- (1) Install (1) RPOTS circuit card in existing UMC chassis in B4080.
- (2) Place cross connects in B1201 and B4080 to activate the (2) 689 telephone numbers.
- (3) Test both circuits from B1201 to B4080 trailer.
- (4) Update drawings showing jack numbers and jack locations in trailer

BOE-TEL:

- (1) Trench from last manhole near B4080 to trailer across limestone parking lot.
- (2) Install 6-pair buried copper cable from room 102 in B4080 out thru existing duct bank to manhole then out into trench to trailer.
- (3) Cover trench between manhole and trailer.
- (4) Install (1) 6-pair station protector on the trailer and install (1) 6-pair station protector in room 102 of B4080. Ground each station protector to an approved ground at both locations.
- (5) Install (2) 4-pair station wires from station protector on the side of the trailer to the (2) locations designated by customer and terminate in a surface mount jack.
- (6) Test and label jacks and 6-pair cable at both ends.
- (7) Provide ODIN with a redline drawing

NOTE: Tasks 1, 2 and 3 (BOE-TEL) will be performed on a Saturday

- b. The contractor shall provide the following material:

- (1) 570 feet of 6-pair buried copper cable (E-000624DFC)
- (2) 60 feet 4-pair Cat3 PVC wire (CM-00424BBG-3U)
- (3) 20 feet of #6 ground wire
- (4) 2 each 6-pair station protector (177930)
- (5) 2 each surface mount jack (503788A)
- (6) 1 pack of Premier black cable ties (739308)
- (7) 1 each RPOTS circuit card (0110-0148)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (August, 18 2005).

17. SWR XK59 5TMP 09

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to Install Cat6 wiring in B1000 and B2201 to support EMCS. Install Cat3 wiring in new area of B2201 that was changed from a shop area to an office and computer floor area for EMCS. as outlined in OAO proposal dated June 3, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

ODIN:

B2201

- (1) Install & configure (1) GFE Cisco 3750 network switch in existing wall mount cabinet in room 129C.
- (2) Configure GFE Cisco 3750 network switch.
- (3) Update database.
- (4) Update security plan.
- (5) Create a new VLAN.
- (6) Install Milan converters in room 211A of B1000 and place fiber jumpers to existing fiber back to B1201. Place Cat6 patch cords from Milan converters to new jacks placed by BOE-TEL.
- (7) Install Milan converters in room 116 of B1201 and place fiber jumpers to existing fiber that feeds B1000. Place Cat6 patch cords from Milan converters to existing network switch in room 116 of B1201.

BOE-TEL:**B1000**

- (1) Install (2) Cat6 wires to room 205 from room 211A and leave enough slack to pull to new closet when it gets built.
- (2) Install (2) Cat6 wires to room 141A from room 211A and leave enough slack to pull to new closet when it gets built.
- (3) Terminate wiring in room 205 in (2) Cat6 jacks and terminate wire in room 211A in (2) Cat6 jacks and place in (1) Panduit outlet box.
- (4) Terminate wiring in room 141A in (2) Cat6 jacks and terminate wire in room 211A in (2) Cat6 jacks and place in same Panduit outlet box placed in item (3) above.

BOE-TEL:**B2201**

- (1) Install Panduit down wall in room 129 to computer floor to run wiring.
- (2) Install (4) Cat6 wires to (1) location in room 129 on north wall.
- (3) Install (2) Cat6 wires and (1) Cat3 wire to (4) locations under new computer floor in new section of room 129 and place in Panduit boxes.
- (4) Install (24) solid copper cables from new GFE network switch to a new 110 wiring block.
- (5) Test and label Cat6 and Cat3 wiring.
- (6) Provide ODIN a redline drawing showing jack numbers and locations for both buildings.

b. The contractor shall provide the following material:

- (1) 2,000 feet of Systimax 2071level 7 plenum wire green (CMP00424AVA-7U-04)
- (2) 1,000 feet of Systimax Cat3 white (CMP-00424MAX-3U)
- (3) 24 each 15 feet of Cat5e solid copper cords (M54AAPBBL-15)
- (4) 10 each Caddy J-hooks (184873)
- (5) 10 each Systimax MGS400 T568A/B Cat6 jacks (246746) Green
- (6) 8 each 25 feet Cat6 patch cords (MM25AV7E-04) Green
- (7) 8 each 14 feet Cat6 patch cords (MM14AV7E-04) Green
- (8) 8 each Systimax M14L-262 faceplates (197613) White
- (9) 5 each Panduit outlet boxes (201336)
- (10) 4 each 110C-4 connectors (073039)
- (11) 4 each Systimax M1BH Cat3 jacks (1240707) Gray
- (12) 3 each Systimax 110AW2-100 block (154069)
- (13) 3 each Caddy clips (157703)
- (14) 2 each 3 feet Cat6 patch cords (MM03AV7E-04)
- (15) 2 each Milan converter MIL-C2413 (225871)

- (16) 2 each Milan converter MIL-RC3113US (266751)
- (17) 2 each Panduit LD10 (131155)
- (18) 2 each 5-meter multimode ST/ST fiber jumper (129352)
- (19) 2 each 2-meter multimode ST/ST fiber jumper (139055)
- (20) 2 each 1-meter multimode ST/SC fiber jumper (152011)
- (21) 1 each IBAR4 power strip (107451)
- (22) 1 each Ortronics equipment shelf (134761)
- (23) 1 each Panduit drop ceiling/entrance end (131135) PK/10

c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (June 20, 2005).

3. Part II "Contract Administration Data", Item 4, will be revised as indicated below to reflect the increase of \$83,232.83 for these infrastructure upgrades when incorporated into the delivery order:

Month/Mod	Description	Monthly Total	Actual Total To Date
Aug-05	Ordered Seats and Services	\$ 398,048.50	\$ 3,568,926.39
Jul-05	Catalog Services	\$ 6,921.34	\$ 130,715.06
Jul-05	Specialized Services	\$ -	\$ 94,366.73
Mod 28/34	Infrastructure upgrades	\$ 239,900.72	\$ 724,587.07
	Fast Track Mods Authorized (but not incorporated by Mod)		
	sub-total of ordered services	\$ 644,870.56	\$ 4,518,595.25
Jul-05	Less facility credit	\$ -	\$ -
Jul-05	Less outage credit	\$ -	\$ -
	Less retainage not earned	\$ -	\$ 16,514.23
TOTAL		\$ 644,870.56	\$ 4,535,109.48

4. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified).
5. Reporting requirements: The contractor shall provide monthly status reports to the SSC DOCOTR, with a copy to the DOCO. These reports shall include, as a minimum, installation progress, and potential problem areas.
6. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.
7. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.